1.0 PURPOSE AND NEED

1.1 Introduction

An ongoing problem is mortality and serious injury of marine mammals incidental to fisheries operations. The Marine Mammal Protection Act (MMPA) of 1972 specifically addresses this problem.

The National Marine Fisheries Service (NMFS), also known as the National Oceanic and Atmospheric Administration (NOAA) Fisheries, is responsible for implementing the MMPA. In 1994, MMPA amendments created Section 118, which includes provisions concerning incidental mortality and serious injury of marine mammals in commercial fisheries. One objective of these provisions, as described in Section 118(b), is to achieve the zero mortality rate goal (ZMRG). This EA focuses on the first provision (the target) of Section 118(b), which is *to reduce the mortality and serious injury of marine mammals incidental to commercial fisheries "to insignificant levels approaching a zero mortality and serious injury rate"* by April 30, 2001 (although the deadline has passed, the requirement must still be met). Other Section 118(b) provisions of the ZMRG include: fisheries that maintain the target levels of incidental mortality and serious injury do not have to further reduce incidental mortality and serious injury rates; the Secretary shall review progress of all commercial fisheries toward achieving the target and submit a report to Congress; and if, after review, a fishery does not achieve the target, NMFS will take appropriate action as described in Section 118(f), which describes the take-reduction process including its long-term goal of achieving ZMRG.

There is currently no statutory or regulatory definition of what levels would be "insignificant levels approaching a zero mortality and serious injury rate." To determine if the goal of Section 118 is being met with respect to the ZMRG on a fishery-specific basis, it is necessary for NMFS to define ZMRG so that it can be quantified and individualized.

In August 2002 three environmental organizations sued NMFS (*Center for Biological Diversity, et al* v. *National Marine Fisheries Service*, Case No. C-02-3901-SC (N.D. Cal. 2003)) alleging lack of compliance with several requirements in Section 118, including failure to submit a report to Congress on the progress of commercial fisheries toward reaching the ZMRG. According to the April 2003 settlement agreement, NMFS agreed to submit for publication in the *Federal Register* a final rule defining ZMRG and to submit a report to Congress on progress of commercial fisheries toward reaching the ZMRG in June 2004.

This environmental assessment (EA) was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the NOAA environmental review procedures (NOAA, 1999). This EA analyzes the potential environmental impacts of implementing several alternatives identified to define the ZMRG.

1.2 ZMRG — Legislative History

In the original MMPA of 1972, the ZMRG was directed at the yellowfin tuna purse seine fishery in the Eastern Tropical Pacific Ocean (ETP). Because fishermen were intentionally encircling dolphins to catch tuna, hundreds of thousands of dolphins were killed annually. Although the ZMRG was directed specifically at the ETP tuna fishery, the enacted language was sufficiently broad that it could include other US commercial fisheries and fisheries in waters under US jurisdiction. Legislative history of the MMPA provided that ZMRG was to include consideration of fishery economics and available technology while addressing the need for immediate reduction of incidental mortality and serious injury of marine mammals.

Since 1972, several pieces of legislation have amended the MMPA and contributed to the evolution of the ZMRG concept:

- **1981 MMPA amendments**: The ZMRG requirement was determined to be satisfied for the ETP yellowfin tuna fishery by continuation of applying the best marine mammal safety techniques and equipment that are economically and technologically practicable. For other fisheries, the goal remained unchanged, to spur technological innovation to reduce incidental marine mammal takes.

- **1988 MMPA amendments**: These amendments included an interim exemption to allow compliant and registered commercial fishing operations to incidentally kill or seriously injure marine mammals while NMFS collected information on the nature and level of marine mammal incidental mortality and serious injury in commercial fisheries.

- **International Dolphin Conservation Act of 1992**: Instead of focusing on the ZMRG objective of utilizing the best available technology, specific per-vessel limits were set to limit dolphin mortality during certain time periods.

- **1994 MMPA amendments**: The 1994 amendments created Section 118, which replaced the interim exemption program of 1988 with provisions to govern interactions between marine mammals and all US commercial fisheries, with the exception of the ETP tuna fishery. Section 118 identifies the short- and long-term goals for marine mammal mortality and serious injury incidental to all commercial fisheries and provides a mechanism by which non-complying fisheries should reach those goals. While a definition of the short-term goal was provided in legislation, no definition of ZMRG was provided even though commercial fisheries were required to achieve ZMRG by April 30, 2001.

- **International Dolphin Conservation Program Act of 1997**: The ZMRG was not specifically addressed, but the Act set a long-term, stock-specific, annual

mortality limit of less than or equal to 0.1 percent of the minimum population estimate of the stock (N_{min}).

The MMPA now retains the ZMRG but still does not define it. As part of the goal of defining ZMRG, this EA's proposed action is for NMFS *to identify what levels of mortality and serious injury would be considered insignificant and approaching a zero rate*. Thus, the agency would define ZMRG so that it can be quantified and individualized on a fishery-specific basis (NMFS, June 1995a).

1.3 ZMRG — Target Level

To determine progress of commercial fisheries, by fishery, toward the ZMRG as provided by MMPA Sections 118(b) and (f), NMFS proposes to determine a target level of incidental mortality and serious injury for each marine mammal stock affected by the commercial fishery under consideration when deciding whether that fishery has attained ZMRG. In this EA, the agency identifies this target level as the insignificance threshold (T_{ins}), which indicates the maximum amount of incidental mortality and serious injury that can be considered to be approaching a zero rate. If the amount of incidental mortality and serious injury is less than or equal to T_{ins} for a particular stock, the level of incidental mortality and serious injury would be considered insignificant and approaching a zero rate for that stock.

To individualize the ZMRG, NMFS proposes that the T_{ins} be determined for each marine mammal stock. A US commercial fishery that has achieved the ZMRG would have a level of incidental mortality and serious injury less than or equal to the T_{ins} for each marine mammal stock with which the fishery interacts. For example, one commercial fishery may incidentally interact with three marine mammal stocks, in which case that fishery would achieve ZMRG only if it has levels of incidental mortality and serious injury that are lower than the respective T_{ins} for each of the three stocks. If a fishery does not exceed the T_{ins} for any interacting marine mammal stock, the fishery would achieve ZMRG.

Insignificance Threshold

The **insignificance threshold** (T_{ins}) is the upper limit of annual incidental mortalities and serious injuries for a marine mammal stock that could be considered insignificant and approaching a zero rate.

Under each alternative, the rate of the ZMRG is determined to be the annual incidental mortality and serious injury of a marine mammal stock as a function of the stock's population size or productivity. The basis of the ZMRG is the biological significance of the amount of incidental mortality and serious injury to the stock; biological significance takes into account stock productivity, including species-specific fecundity and population

growth rates. Therefore, the biological relevance of using a rate describing the number of incidental mortalities and serious injuries per year is less helpful than using a rate describing the number of incidental mortalities and serious injuries per year per population. Under each alternative in this EA, the rate units for the insignificance threshold would be annual incidental mortalities and serious injuries per 1,000 animals in the stock.

1.4 MMPA Elements Related to ZMRG

There are other MMPA elements that relate to ZMRG and the development of its quantitative definition as described in the following sections.

1.4.1 Potential Biological Removal Level

The MMPA provides that the potential biological removal level (PBR) for a marine mammal stock is the "maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population." Several alternatives considered in this EA define T_{ins}, and thus ZMRG, in terms of or as a derivative of a stock's PBR.

Potential Biological Removal Level (PBR)

PBR is the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

To calculate PBR for any marine mammal stock,

$$PBR = N_{min} * 0.5R_{max} * F_r$$

where N_{min} = the minimum population estimate of the stock.
R_{max} = the maximum theoretical or estimated net productivity rate of the stock at a small population size.
F_r = a recovery factor of between 0.1 and 1.0.

If insufficient data exist to calculate R_{max} properly for a particular stock, default values are used. For cetaceans, the default R_{max} is four percent ($0.5R_{max} = 0.02$). For pinnipeds, the default R_{max} is 12 percent ($0.5R_{max} = 0.06$).

Default values of F_r have been assigned according to stock status. For healthy stocks, F_r equals 1.0; for endangered stocks, F_r equals 0.1; and for stocks with a threatened,

depleted, or unknown status, F_r equals 0.5. However, flexibility allows for adjustment of the default F_r on a stock-specific basis if ample scientific data exist.

1.4.2 Fishery Classification

According to Section 118, NMFS classifies commercial fisheries based on frequency of incidental mortality and serious injury of marine mammals. The agency must reexamine the classification, known as the List of Fisheries (LOF), at least annually and publish any necessary changes in the *Federal Register*. The LOF is based on annual stock assessment reports (SARs) as well as other sources of new information. In the LOF, fisheries are classified in three categories:

- Category I includes commercial fisheries with frequent incidental mortality and serious injury of marine mammals.
- Category II includes commercial fisheries with occasional incidental mortality and serious injury of marine mammals.
- Category III includes commercial fisheries with a remote likelihood of or no known incidental mortality and serious injury of marine mammals.

Determining the "frequent," "occasional," and "remote likelihood/no known" thresholds consists of a two-tiered approach to classify a fishery based on its annual interactions with a specific stock. Tier 1 addresses cumulative impacts (incidental mortalities and serious injuries of marine mammals due to commercial fishing operations) of all fisheries on a particular stock. If such impacts are less than or equal to ten percent of that stock's PBR, all fisheries interacting with that stock are classified in Category III. Otherwise, these fisheries are subject to analysis in Tier 2, which addresses impacts of individual fisheries on each stock. According to Tier 2 criteria:

- Category I comprises fisheries with incidental mortality and serious injury greater than or equal to 50 percent of the stock's PBR.
- Category II comprises fisheries with incidental mortality and serious injury between one and 50 percent of the stock's PBR.
- Category III comprises fisheries with incidental mortality and serious injury less than or equal to one percent of the stock's PBR.

In the absence of reliable data to determine the frequency of marine mammal incidental mortality and serious injury in a particular commercial fishery, NMFS determines Category II and III classifications based on other factors: fishing techniques, gear used, methods to deter marine mammal, target species, seasons and areas fished, qualitative data from logbooks or fisher reports, stranding data, and the species and distribution of marine mammals in the area.

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206
207 1.4.3 Take Reduction Plans
208
209 For all strategic stocks that interact with Category I or II commercial fisheries, the
210 MMPA generally requires the formation of a take reduction team (TRT) to prepare a take
211 reduction plan (TRP). TRTs must include a balanced representation of various
212 stakeholders listed under the MMPA. TRPs are designed to prevent further decline and
213 to assist in the recovery of a strategic marine mammal stock that interacts with Category I
214 or II commercial fisheries.
215
216 **Strategic Stock**
217
218 A **strategic stock** is a marine mammal stock for which the level of direct
219 human-caused mortality exceeds PBR; which, based on the best available
220 scientific information, is declining and is likely to be listed as a threatened
221 species under the ESA within the foreseeable future; or which is listed as a
222 threatened species or an endangered species under the ESA or is
223 designated as depleted under the MMPA.
224
225
226
227 Section 118 generally requires development and implementation of a TRP for all strategic
228 stocks that interact with Category I or II fisheries. A TRP may also be designed for
229 Category I fisheries that have high incidental mortality and serious injury across a
230 number of strategic marine mammal stocks. If NMFS has insufficient funds to develop
231 and implement all required TRPs, priority is given to marine mammal stocks with
232 incidental mortality and serious injury exceeding PBR, stocks with small population size,
233 and stocks with the highest rate of decline. TRPs are not required for Category III
234 fisheries.
235
236 The immediate goal of a TRP is to reduce, within six months of implementation,
237 incidental mortality and serious injury of a strategic stock to a level below PBR. *The*
238 *long-term goal of a TRP is to reduce, within five years of implementation, the incidental*
239 *mortality and serious injury to insignificant levels approaching a zero mortality and*
240 *serious injury rate,* taking into account available technology (such as modified fishing
241 gear and techniques), economic feasibility, and state and regional fishery management
242 plans (FMPs). NMFS must consider the draft TRP submitted by the TRT and develop
243 regulations to implement the plan, which also requires NEPA analysis.
244

1.5 ZMRG — Regulatory Status

In its *Environmental Assessment of Proposed Regulations to Govern Interactions between Marine Mammals and Commercial Fishing Operations, under Section 118 of the Marine Mammal Protection Act* (NMFS, 1995a), NMFS included a proposed definition of the ZMRG. However, the ZMRG definition was not included in the final rule (NMFS, 1995c) because the agency was still considering what would be an appropriate goal. The proposed rule in 1995 defined ZMRG as being satisfied by meeting one of two criteria:

1) A fishery, collectively with other commercial fisheries, removes ten percent or less of any stock's PBR (see section 1.4.1).

2) A fishery by itself removes one percent or less of a stock's PBR for a stock that has an annual removal rate of more than ten percent of its PBR when calculated collectively with other commercial fisheries.

According to the 1995 proposed rule, fisheries that had achieved the ZMRG would be classified in Category III (see section 1.4.2).

NMFS currently uses ten percent of PBR in SARs to determine if a fishery's level of incidental marine mammal mortality and serious injury meets the ZMRG. The SARs have no regulatory effect, and NMFS will continue to use the ten-percent-of-PBR criterion until a final rule defining ZMRG is published.

1.6 Summary of Purpose and Need

NMFS is responsible for implementing Section 118 of the MMPA. Section 118 describes regulations concerning incidental mortality and serious injury of marine mammals in commercial fisheries. The objective of these regulations is to achieve the ZMRG, or to reduce mortality and serious injury of marine mammals incidental to commercial fisheries to insignificant levels approaching a zero rate. There is currently no regulatory definition of what levels would be "insignificant levels approaching a zero mortality and serious injury rate" on a fishery-specific basis. Thus, to determine if the goal of Section 118 is being met with respect to ZMRG, it is necessary for NMFS to define the ZMRG so that it can be quantified and individualized.

Further, in August 2002, three environmental organizations sued NMFS alleging lack of compliance with Section 118 provisions. According to the April 2003 settlement agreement, NMFS agreed to submit a final rule defining ZMRG for publication in the *Federal Register* and a report to Congress on progress of commercial fisheries towards reaching the ZMRG in June 2004.

To determine progress of commercial fisheries, by fishery, as provided by MMPA Sections 118(b) and (f), NMFS must determine the T_{ins} of each marine mammal stock

affected by the commercial fishery under consideration when deciding whether that fishery has attained ZMRG. A successful, implementable alternative would be consistent with the four statutory requirements related to ZMRG as described in MMPA Section 118(b).

There are other MMPA elements that relate to ZMRG and the development of its quantitative, regulatory definition. NMFS currently uses PBR as a component in determining whether a commercial fishery has achieved the ZMRG for purposes of SARs. Several alternatives considered in this EA define T_{ins}, and thus ZMRG, in terms of a stock's PBR.

Another element of Section 118 that relates to ZMRG is the take-reduction concept. Section 118 generally requires development and implementation of a TRP for all strategic stocks that interact with Category I or II fisheries. The immediate goal of a TRP is to reduce, within six months of implementation, incidental mortality and serious injury of a strategic stock to a level below PBR. The long-term goal of a TRP is to reduce, within five years of implementation, the incidental mortality and serious injury to insignificant levels approaching a zero mortality and serious injury rate, taking into account several listed factors.

1.7 The NEPA Process

NEPA, enacted by Congress in 1969, requires the consideration of environmental issues in Federal agency planning and decision-making. Under NEPA, Federal agencies must prepare an environmental impact statement (EIS) for those proposed Federal actions that would significantly affect the quality of the human environment. Federal agencies may prepare an EA when the potential significance of a proposed Federal action's environmental impacts is unknown or to provide Federal decision-makers with sufficient evidence and analysis to determine whether or not to prepare an EIS. The EA includes brief discussions of the following:

- The purpose and need for the proposed action.
- The alternatives.
- The existing conditions.
- The environmental impacts of the proposed action and alternatives.
- A listing of agencies and persons consulted.

If on the basis of the EA, Federal decision-makers determine that the proposed action would not have a significant impact on the human environment, a Finding of No Significant Impact (FONSI) is issued. If on the basis of the EA, Federal decision-makers determine that the proposed action would have a significant impact on the human environment, an EIS is prepared.

NOAA's NEPA Guidelines/Regulations

This EA addresses the proposed Federal action of creating a new rule to define and implement the ZMRG.

NOAA has guidelines for implementing NEPA, which include criteria for determining significance of impacts (NOAA, 1999). Such criteria should be used to determine what type of environmental review is appropriate for NEPA compliance. Significance requires consideration of context and intensity. The contextual facet means analysis of the action as it may affect society, as a whole, regionally, and locally. Intensity describes the severity of the impact. When determining significance, several factors concerning intensity should be considered (40 CFR 1508.27):

- Impacts may be both beneficial and adverse.
- Degree to which public health and safety is affected.
- Unique characteristics of the geographic area.
- Degree to which effects on the human environment are likely to be highly controversial.
- Degree to which effects are highly uncertain or involve unique or unknown risks.
- Degree to which the action establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- Individually insignificant but cumulatively significant impacts.
- Degree to which the action adversely affects entities listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources.
- Degree to which endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973, are adversely affected.
- Whether a violation of Federal, state, or local law for environmental protection is threatened.
- Whether a Federal action may result in the introduction or spread of a nonindigenous species.

1.8 Other Environmental Requirements Considered

Although this EA pertains specifically to provisions of the MMPA, NMFS must follow other applicable laws and regulations in developing a new rule for the ZMRG definition.

1.8.1 Endangered Species Act

The Endangered Species Act (ESA) provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered. As per the ESA, it is unlawful for any person subject to the jurisdiction of the United States (US) to "take" any such species within the US or the high seas, unless authorized under specific provisions of the ESA. The ESA defines "take" as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct to species listed as threatened or endangered. In addition, Federal agencies in consultation with NMFS or the US Fish and Wildlife Service (depending on the species involved), must ensure that any action by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of designated critical habitat.

1.8.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), enacted to conserve and restore the nation's fisheries, requires regional fisheries councils to reduce overfishing and bycatch and to describe and identify essential fish habitat (EFH), defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Under the act, Federal agencies must consult with the Secretary of Commerce regarding any activity, or proposed activity, authorized, funded, or undertaken by the agency that may adversely affect fisheries and fish habitats.

1.8.3 Executive Order 12866: Regulatory Planning and Review

Executive Order (EO) 12866, Regulatory Planning and Review, requires Federal agencies to follow "a program to reform and make more efficient the regulatory process." During regulatory decision-making, Federal agencies are required to maximize net benefits after conducting quantitative and qualitative cost-benefit analyses, including the option of not regulating.

1.8.4 Regulatory Flexibility Act

According to the Regulatory Flexibility Act (RFA), Federal agencies must consider economic impacts that their rules may have on small entities, including small businesses. The agency must prepare an Interim and Final Regulatory Flexibility Analysis (IRFA/FRFA), unless the agency can certify that the rule would not have "a significant economic impact on a substantial number of small entities." In an IRFA/FRFA, among other things, regulatory alternatives must be evaluated that achieve the objective of applicable statutes and that might minimize negative economic impacts on small entities.